



Not Required

PLANT ITEM No. 24590-HLW-MV-HDH-VSL-00002

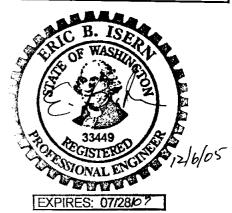
Project:	RPP-WTP	P&ID:	24590-HLW-M6-HDH-P0001
Project No:	24590	Process Data Sheet:	24500 HI W MED HOW SOOM A SSUED BY
Project Site:	Hanford	Vessel Drawing	24590-HLW-MV-HDH-P0004, P0005
Description:	Canister Decon Vessel 1		

Canister Decon Ves	sel 1	
	Reference Data	
Charge Vessels (Tag Numbers)	Not Required	
Pulsejet Mixers / Agitators (Tag Numbers)	Not Required	
RFDs/Pumps (Tag Numbers)	Not Required	

Quality Level		СМ	Fabrication Specs	24590-WTP-3PS-MV00-TP001 Generally to ASME VIII DIv 1		
Seismic Category		SC-III	Design Code			
Service/Contents		Nitric Acid, Water, Ceric Nitrate	Code Stamp	No ASINE VIII DIV 1		
Design Specific Gravity		1.25	NB Registration	No		
Maximum Operating Volume	gai	212 with Canister in Vessel	Weights (lbs)	Empty	Operating	Test
Total Volume	gal	630	Estimated	3400	21,200	
Environmental Qualification /	2	NIA	Actual *	<del>                                     </del>	21,200	21,200

Inside Diameter	inch	30			Wind Design	None	•
Length/Height (TL-TL)	inch	220 (OAL)	/2\		Snow Design	None	
		Vessel Operating	Vessel <u>Design</u>	Coil/Jacket <u>Design</u>	Seismic Design	2459	0-WTP-3PS-MV00-TP002 0-WTP-3PS-FB01-T0001
Internal Pressure	psig	Atm	15	Note 1	Seismic Base Moment *	ft*lb	373720770007
External Pressure	psig	Atm	Atm	Note 1	Postweld Heat Treat	None	
Temperature	°F	149	225	Note 1	Corrosion Allowance	Inch	0.04
Min. Design Metal Temp.	°F	40			Hydrostatic Test Pressure *	psig	0.04

Note: Please note that source, special nuclear and byproduct materials, as defined in the Atomic Energy Act of 1954 (AEA), are regulated at the U.S. Department of Energy (DOE) facilities exclusively by DOE acting pursuant to its AEA authority. DOE asserts, that pursuant to the AEA, it has sole and exclusive responsibility and authority to regulate source, special nuclear, and byproduct materials at DOE-owned nuclear facilities. Information contained herein on radionuclides is provided for process description purposes only.



This Bound Document Contains a total of 3 Sheets.

KEV	DATE	REASON FOR REVISION	PREPARER	CHECKER	REVIEWER	APPROVER
0 REV	10/29/02	Issued for Permitting Use	J. Jackson	C. Slater	N/A	S. Kirk
	3/24/04	Issued for Permitting Use	K. Brightman	B. Balakrishnan	C. Slater	M. Hoffmann
2	12/27/05	Issued for Permitting Use	J. Thompson	BVM_ 4K B. Makadia / L. Han	C. Slater	d July



PLANT ITEM No.

24590-HLW-MV-HDH-V\$L-00002

Materials of Construction

Composed		Construction	
Component Lid Assembly	Material	Minimum Thickness / Size	Containment
<u> </u>	B-265 2	See Drawing	NIA
Shell	B-265 2	See Drawing	NIA
Bottom Head	B-265 2	See Drawing	NIA
Support	B-265 2	See Drawing	
Shaft	304SS Minimum	N/A	NIA
Bearings	304SS Minimum	NIA	NIA
Pipe	B-861/B-363 Seamless		NIA
Tubing	B-338 2	See Drawing	NIA
Forgings/ Bar stock		See Drawing	NIA
Gaskets	B-381 F2   SB348-2 Note 5 2		NIA
Bolting	Note 3	NIA	NIA
Dotting	A-193 B8 / A-194 8	NIA	NIA

Miscellaneous Data

Orientation	Vertical	Support Type	0-11
Insulation Function	Not Applicable	Insulation Material	Collar
Insulation Thickness (inch)	Not Applicable	Internal Finish	Not Applicable Welds Descaled as Laid
		External Finish	Welds Descaled as Laid

#### Remarks

\* To be determined by the vendor.

Note 1: Steam coll design pressure = 180 psig, design temperature = 393°F Cooling coll design pressure = 119 psig, design temperature = 174°F

Note 2: Vessel volumes are approximate and do not account for manufacturing tolerances, nozzles, and displacement of

Note 3: Body flange gasket shall be Garlock Helicoflex HN 208A seal configuration with titanium jacket. 2

Note 4: Contents of this document are Dangerous Waste Permit affecting.



PLANT ITEM No. 24590-HLW-MV-HDH-VSL-00002

**Equipment Cyclic Data Sheet** 

ĺ	Component Plant Item Number:	HDH-VSL-00002
l	Component Description	Melter 1 Canister Decon Vessel
_	The information below is	provisional and envelopes operational duty to a failure

i ne information below	is provisional and envelopes operational duty for fatigue assessment. It is not to be used as operational data.
Materials of Construction	SB-265 2
Design Life	40 Years
Component Function and Life Cycle Description	A cycle consists of the following:  A 10,000 ib canister will be loaded into the vessel and the lid will be closed  The vessel will fill to the overflow with one-molar nitric acid and Cerium +4 solution.  The heating coll will raise the temperature of the liquid from 68°F to 149°F.  Heating and cooling colls will maintain the temperature of the liquid at 149°F for 6 hours.  The nitric acid solution will be drained from the vessel  The upper and lower spray rings will rinse the canister with nitric acid and demineralized water  Flow to the upper spray ring will stop, the lid will open, and the canister will be slowly removed from the vessel while the lower spray ring continues to rinse the canister.

	Min	Max	Number of Cycles	Comment
psig	NIA	NIA	NIA	
psig	Atm	Atm	29,200	
°F	48	149	29,200	
vity	1.00	1.25	29,200	
inch	Empty	Full	29,200	
es			J.,	
	Empty   Full	+Canister	29,200	
	*			
	<u> </u>			
	psig °F vity	psig NIA psig Atm  °F 48  vity 1.00  inch Empty  es	psig         N/A         N/A           psig         Atm         Atm           °F         48         149           vity         1.00         1.25           inch         Empty         Full	psig NIA NIA NIA psig Atm Atm 29,200  °F 48 149 29,200  vity 1.00 1.25 29,200  inch Empty Full 29,200  es

#### Notes

Cycle Increase: The Selier must increase the numbers of operational cycles given above by 10% to account for commissioning duty unless otherwise noted.

Note 5: Bar SB348-2 is used for Spray Nozzies PiN 08D & 09D, Rollers and Roller Pins PiN 18C & 18D, Thermowells PiN 38A & 38C, Stabilizer bars PiN 19B, Lid Hold Downs PiN 28B & 31K.





PLANT ITEM No.

24590-HLW-MV-HDH-VSL-00002

Project:			
	RPP-WTP	P&ID:	
Project No:	24590	Brown But St	24590-HLW-M6-HDH-00001 .SSUED BY
Project Site:	Hanford	Vanasi D	2-390-HLW-MTD-HDH-00001
Description:	Canister Decon Vesse		24590-HLW-MV-HDH-00004, 00005
		D-4	

Charge Vessels (Tag Numbers)	Reference Data
Pulsejet Mixers / Agitators (Tag Numbers)	Not Required
RFDs/Pumps (Tag Numbers)	Not Required
(rag runicers)	Not Required
	Dooley Dod

uality Level		CM	gn Data			
sismic Category			Fabrication Specs	24590-WTP-3	PS-MV00-T0001	
Service/Contents		SC-III	Design Code	Generally to	ASME VIII DIV 1	
sign Specific Gravity		Nitric Acid, Water, Ceric Nitrate	Code Stamp	No	TOWN VIOLET	<del></del>
iximum Operating Volume	T 901	1.25	NB Registration	No		
al Volume	gal	212 with Canister in Vessel	Weights (lbs)	Empty	Operating	<del></del>
	gal	630	Estimated	3400		Test
MAIKON WED	46	QUALIFICATION; NIA	Actual *		21,200	21,200

side Diameter	inch	30			Wind Design		
ngth/Height (TL-TL)	inch	220 (OAL)			<u> </u>	Non	e
					Snow Design	Non	
		Vessei Operating	Vessel Design	Coil/Jacket Design	Seismic Design		90-WTP-3P <b>S-M</b> V00-T0002
mai Pressure	psig	Atm	15	Note 1		245	90-WTP-3PS-FB01-T0001
ernal Pressure	psig			<del></del>	Seismic Base Moment *	ft*lb	
mperature		Atm	Atm	Note 1	Postweld Heat Treat	Al-	
•	°F	149	225	Note 1	Corrosion Allowance	Non	<del>-</del>
. Design Metal Temp.	"F	40		14010 /		Inch	0.04
-		70			Hydrostatic Test Pressure *	psig	

		1000016	1 6	
Component		of Construction		
Lid Assembly	- Material	Minimum Thickness / Size	<del></del>	Contain
Shell	B-265 2	See Drawing	NIA	Containment
Bottom Head	B-265 2	See Drawing	NIA	
Support	B-265 2	See Drawing		
Shaft	B-265 2	See Drawing	NIA	
	304SS Minimum	N/A	NIA	
Bearings	304\$\$ Minimum	<del></del>	NIA	
Pipe	B-861 B-363 Seamless	NIA	NIA	
ubing	B-338 2	See Drawing	NIA	
orgings/ Bar stock		See Drawing	NIA	
Gaskets	B-381 F2   \$B348-2 Note 5	See Drawing	NIA	
Solting	Note 3	NIA	NIA	
	A-193 B8   A-194 8	NIA		
		THE PARTY IN THE P	NIA	

	1.01	- <del></del>	N/A
Orientation	Miscella	neous Data	
January Town	Vertical	Support Type	
Insulation Function	Not Applicable	<del> </del>	Collar
I IIISHADOO I MCKDACA (inala)		Insulation Material	Not Applicable
	Not Applicable	Internal Finish	
		External Finish	Welds Descaled as Laid
			Welds Descaled as Laid
* To be determined by the	Re	marks	

\* To be determined by the vendor.

Note 1: Steam coil design pressure = 180 psig, design temperature = 393°F Cooling coil design pressure = 119 psig, design temperature = 174°F

Note 2: Vessel volumes are approximate and do not account for manufacturing tolerances, nozzles, and displacement of

Note 3: Body flange gasket shall be Garlock Helicoflex HN 208A seal configuration with titanium jacket.  $\sqrt{3}$ Note 4: Contents of this document are Dangerous Waste Permit affecting.



PLANT ITEM No. 24590-HLW-MV-HDH-VSL-00002

Equipment Cyclic Data Sheet

^	Equipment Cyclic Data Sheet
Component Plant Item Number:	HDH-VSL-00002
Component Description	Melter 1 Canister Decon Vessel
The information below	is provide at a second
Materials of Construction	is provisional and envelopes operational duty for fatigue assessment. It is not to be used as operational data.
Design Life	40 Years
Component Function and Life Cycle Description	A cycle consists of the following:  A 10,000 ib canister will be loaded into the vessel and the lid will be closed  The vessel will fill to the overflow with one-molar nitric acid and Cerium +4 solution.  The heating coil will raise the temperature of the liquid from 68°F to 149°F.  Heating and cooling coils will maintain the temperature of the liquid at 149°F for 6 hours.  The nitric acid solution will be drained from the vessel  The upper and lower spray rings will rinse the canister with nitric acid and demineralized water

Flow to the upper spray ring will stop, the lid will open, and the canister will be slowly

Load Type		Min	Max	Number of Cycles	Comment
Design Pressure	psig	NIA			Comment
Operation Dec		- TO IA	NIA.	NIA	
Operating Pressure	psig	Atm	Atm	29,200	
Operating Temperature	°F	48	149	29,200	
Contents Specific Grav	/ity	1.00	1.25	29,200	
Contents Level	inch	Empty	Full		
Localized Feature	es			29,200	
essel and Supports		Empty   Full	+Canister	29,200	

Notes

Cycle increase: The Seller must increase the numbers of operational cycles given above by 10% to account for commissioning duty unless otherwise noted.

Note 5: Bar SB348-2 is used for Spray Nozzies PIN 08D & 09D, Rollers and Roller Pins PIN 18C & 18D, Thermowells PIN 38A & 38C, Stabilizer bars PIN 19B, Lid Hold Downs PIN 28B & 31K.

Rev	Description	A	pprovai				
0	Issue for Purchase	System Engr	Vessel Engr	Checked	Reviewed	T	
		D. Choi	R. Simmons	M. Staley C.	M. Wright	Approved M. Hoffmann	Date
1	Revised as Indicated	G. Fenton	B 61	Stater		ann a zod i tet den i d	6/16/03
_		31 % 411.001	R. Simmons		D.	M. Hoffmann	10/29/03
2	issued to incorporate 24590-WTP-	R. Tometezak	Paul Polani	C. Slater Steve Crow	Yarbrough		
	SDDR-PROC-04-01079	<u>_</u>		2000	Jeff Pullen	M. Hoffmann	1/21/05
	Revised per Note 3 on sheet 1 of 2.	Ray of	BVM	JEL AR	~ A-	In A A A	
		5 moderni	T-IM-	THE WAY	(C) (2).	1 stulpe	11/28/0